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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
09/833,257	04/09/2001	Michael Buchanan	P66570US0	3204

7590 03/07/2006

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EXAMINER	
KWON, BRIAN YONG S	

ART UNIT	PAPER NUMBER
1614	

DATE MAILED: 03/07/2006

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary	Application No.	Applicant(s)	
	09/833,257	BUCHANAN ET AL.	
	Examiner	Art Unit	
	Brian S. Kwon	1614	

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

1)☒ Responsive to communication(s) filed on *29 December 2005*.

2a)☐ This action is **FINAL**. 2b)☒ This action is non-final.

3)☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

4)☒ Claim(s) *10,13-23,33 and 34* is/are pending in the application.

4a) Of the above claim(s) _____ is/are withdrawn from consideration.

5)☒ Claim(s) *10 an 13* is/are allowed.

6)☒ Claim(s) *14-23 and 33-34* is/are rejected.

7)☐ Claim(s) _____ is/are objected to.

8)☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

9)☐ The specification is objected to by the Examiner.

10)☐ The drawing(s) filed on _____ is/are: a)☐ accepted or b)☐ objected to by the Examiner.

Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).

Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).

11)☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

12)☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).

a)☐ All b)☐ Some * c)☐ None of:

1.☐ Certified copies of the priority documents have been received.

2.☐ Certified copies of the priority documents have been received in Application No. _____.

3.☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

1) ☐ Notice of References Cited (PTO-892)
2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
3) ☐ Information Disclosure Statement(s) (PTO-1449 or PTO/SB/08) Paper No(s)/Mail Date _____.
4) ☐ Interview Summary (PTO-413) Paper No(s)/Mail Date. _____ .
5) ☐ Notice of Informal Patent Application (PTO-152)
6) ☐ Other: _____.

ETAILED ACTION

Status of Application

1. Acknowledgement is made of applicants' filing of the instant application as a Request for Continued Examination (RCE) under 37 CFR 1.1114. Claims 24, 25 and 28 are currently pending for prosecution on the merits.

2. By Amendment filed December 29, 2005, claims 14-15 have been amended and claims 33-34 have been newly added. Claims 10, 13-23 and 33-34 are currently pending for prosecution on the merits.

3. Applicant's amendment necessitates a new ground of rejection(s) in this Office Action.

Claim Objections

4. Claim 33 is objected to because of the following informalities: Improper Markush-type language is used. "selected from the group consisting of ... or both" should be corrected as "selected from the group consisting of ...and both".

Claim Rejections - 35 USC § 112

The following is a quotation of the first paragraph of 35 U.S.C. 112:

> The specification shall contain a written description of the invention, and of the manner and process of making and using it, in such full, clear, concise, and exact terms as to enable any person skilled in the art to which it pertains, or with which it is most nearly connected, to make and use the same and shall set forth the best mode contemplated by the inventor of carrying out his invention.

5. Claims 15 and 34 are rejected under 35 USC 112, first paragraph, as containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention.

The present claims are drawn to a composition comprising 13-hdyroxyoctadeca-9Z, 11E-dienoic acid (13-HODE) in its free form and at least one carrier.

The instant specification discloses a composition comprising 13-HODE either in its free from or with a pharmaceutically acceptable carrier, auxiliary or excipient, wherein the carrier, auxiliary or excipient may be mono-, di- or triglyceride oil, corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body and fish liver oils, or an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds; wherein the ester may be ethyl-eicosapentaenoic (ethyl-EPA), oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic, dihomogammalinolenic, arachidonic, docosapentaenoic or docosahexaenoic (DHA) (page 16, lines 4-12). The specification also discloses that said composition may include emulsifying agents, antioxidants (e.g., ascorbyl palmitate, tocopherols and ascorbic acid), buffering agents, preservatives, humectantas, penetration enhancers, chelating agents, gelforming agents, ointment bases, perfumes and skin protective agents (page 21, lines 2-136). The specification is based on applicant's alleged discovery of finding of "stable" composition by incorporating 13-HODE into a triglyceride oil carrier or an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds (page 25, lines 3-4; page 26, lines 20-23), particularly EPA and DHA, more particularly ethyl ester of EPA (page 25, lines 10-14; page 26, line 23 thru page 27, line 2).

As preferred embodiment of the invention, the pharmaceutical composition of 13-HODE in combination with carrier selected from the group consisting of corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body, fish liver oils, ethyl-eicosapentaenoic (ethyl-EPA), oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic,

dihomogammalinolenic, arachidonic, docosapentaenoic and docosahexaenoic (DHA), specifically a combination product containing 13-HODE in combination with corn oil or an ethyl ester of a 16-26 carbon fatty acid with one or more double bonds, such as ethyl-oleate, ethyl-linolate, ethyl-EPA or ethyl-DHA (page 22, lines 1-18). As another preferred embodiment of the invention, the pharmaceutical combination containing 13-HODE and omega-3 fatty acids, like EPA, DHA, derivatives of EPA and DHA, ethyl-EPA and ethyl-DHA is disclosed (page 22, lines 22-24).

As discussed above, the specification provides sufficient written description for the composition comprising (A) 13-HODE and (B) omega-3 fatty acids selected from the group consisting of EPA, DHA, ethyl-EPA and ethyl-DHA, or the composition comprising (A) 13-HODE and (C) carrier selected from the group consisting of a mono-, di- or triglyceride oil; corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body, fish liver oils; an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds (e.g., oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic, dihomogammalinolenic, arachidonic and docosapentaenoic). The specification clearly does not provide an adequate representation regarding the composition comprising (A) 13-HODE, (B) omega-3 fatty acid selected from the group consisting of EPA, DHA, a derivative of EPA and a derivative of DHA and (C) carrier selected from the group consisting of a mono-, di- or triglyceride oil; corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body, fish liver oils; and an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds (e.g., oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic, dihomogammalinolenic, arachidonic and docosapentaenoic, made by the presently claimed invention. In other words, the

specification provides insufficient written description to support the instantly required (A)/(B)/(C) combination. None of the claimed compositions in claims 15-20 meets the written description provision of 35 USC 112, first paragraph.

Vas-Cath Inc. Mahurkar, 19 USPQ2d 1111, makes clear the "applicant must convey with reasonable clarity to those skilled in the art that, as of the filing date sought, he or she was in possession of the invention. The invention is, for purposes of the 'written description' inquiry, whatever is now claimed." (See page 1117.) The specification does not "clearly allow persons of ordinary skill in the art to recognize that [he or she] invented what is claimed." (See Vas-Cath at page 1116).

With the exception of the above mentioned (A) and (B) combination or (A) and (C) combination, the skilled artisan cannot envision (A)/ (B)/(C) or (B)/(C) combination.

Finally, University of California v. Eli Lilly and Co., 43 USPQ2d 1398, 1404, 1405 held that:

...To fulfill the written description requirement, a patent specification must describe an invention and do so in sufficient detail that one skilled in the art can clearly conclude that "the inventor invented the claimed invention." *Lockwood v. American Airlines, Inc., 107 F.3d 1565, 1572, 41 USPQ2d 1961, 1966(1997); In re Gosteli, 872 F.2d 1008, 1012, 10 USPQ2d 1614, 1618 (Fed. Cir. 1989)* ("[T]he description must clearly allow persons of ordinary skill in the art to recognize that [the inventor] invented what is claimed.") Thus, an applicant complies with the written description requirement "by describing the invention, with all its claimed limitations, not that which makes it obvious," and by using "such descriptive means as words, structures, figures,

diagrams, formulas, etc., that set forth the claimed invention." *Lockwood, 107 F.3d at 1572, 41 USPQ2d at 1966.*

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

> A person shall be entitled to a patent unless –
>
> (b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

6. Claims 15, 17 and 34 are rejected under 35 U.S.C. 102(b) as being anticipated by Streber (US 5102912)

Streber expressly teaches a oral composition comprising hydroxyoctadecadienic acid (i.e., 13-hydroxy-9(cis)-11(trans)-octadecadienic acid (13-HODE)) and carrier (i.e., soya oil), wherein said compound is administered in administered daily dose of from about 100 to 100mg; and wherein said composition is prepared in various dosage forms including tablet, capsule and dragees. See column 3, lines 3-65 and claims 1, 9, 15-16 and 19.

Although 13-hydroxy-9(cis)-11(trans)-octadecadienic acid (13-HODE) is not specifically disclosed as the embodiment with soya oil or triglyceride, however, one of ordinary skill in the art would have been able to select 13-HODE from the limited number of compounds (four compounds disclosed in column 3, lines 44-47) listed as the preferred pharmaceutical preparation in tablet form, and "at once envisage" the subject matter within claims 15-17 of the instant invention. Thus, the reference anticipates the claimed invention.

Although Streber is silent about "for use in reducing the inhibiting of endogenous 13-HODE synthesis in a subject", such statement of intended use of purpose is not limiting to the interpretation of the composition claims. Therefore, the reference anticipates the claimed invention.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

> (a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negatived by the manner in which the invention was made.

The factual inquiries set forth in *Graham* **v.** *John Deere Co.*, 383 U.S. 1, 148 USPQ 459 (1966), that are applied for establishing a background for determining obviousness under 35 U.S.C. 103(a) are summarized as follows:

1. Determining the scope and contents of the prior art.
2. Ascertaining the differences between the prior art and the claims at issue.
3. Resolving the level of ordinary skill in the pertinent art.
4. Considering objective evidence present in the application indicating obviousness or nonobviousness.

This application currently names joint inventors. In considering patentability of the claims under 35 U.S.C. 103(a), the examiner presumes that the subject matter of the various claims was commonly owned at the time any inventions covered therein were made absent any evidence to the contrary. Applicant is advised of the obligation under 37 CFR 1.56 to point out the inventor and invention dates of each claim that was not commonly owned at the time a later invention was made in order for the examiner to consider the applicability of 35 U.S.C. 103(c) and potential 35 U.S.C. 102(e), (f) or (g) prior art under 35 U.S.C. 103(a).

7. Claims 14-17, 19-23 and 33-34 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vanderhoek (US 60777525) in view of Breivik et al. (US 5502077).

Vanderhoek teaches the use of conjugated linoleic acids (CLAs) such as 13-HODE for inhibiting platelet aggregation (column 1, lines 3-7; column 2, lines 20-28; column 3, lines 25-36 and 55) or reducing LDL-cholesterol level (column 1, lines 42-49).

Breivik teaches the use of fatty acid composition comprising omega-3-fatty acids such as EPA, DHA and ethyl ester form of EPA or DHA, antioxidants (e.g., ascorbic acid, d-alpha tocopherol) and additives (e.g., colouring agents) for inhibiting platelet aggregation (Table 10; column 9, lines 65-66) or lowering LDL-cholesterol level (Table 8; column 9, lines 25-28; column 11, lines 14-38).

The teaching of Vanderhoek differs from the claimed invention in (i) the combination of 13-HODE, and omega-3 fatty acid (i.e., EPA, DHA, ethyl-EPA and ethyl-DHA); (ii) the specific dosage amount of 13-HODE; (iii) the specific dosage form; and optionally (iv) further comprising antioxidants (e.g., ascorbic acid, d-alpha tocopherol) and additives (e.g., colouring agents). To incorporate such teaching into the teaching of Vanderhoek, would have been obvious in view of Breivik teaches the use of fatty acid composition comprising omega-3-fatty acids such as EPA, DHA and ethyl ester form of EPA or DHA, antioxidants (e.g., ascorbic acid, d-alpha tocopherol) and additives (e.g., coloring agents) for inhibiting platelet aggregation or lowering LDL-cholesterol level.

The above references in combination make clear that the use of 13-HODE, omega-3 fatty acids such as EPA, DHA, ethyl-EPA and ethyl-DHA and antioxidants for inhibiting platelet aggregation or lowering LDL-cholesterol level are well known in the art. It is obvious to

combine two compositions each of which is taught by prior art to be useful for same purpose; idea of combining them flows logically from their having been individually taught in the prior art. The combination of active ingredient with the same character is merely the additive effect of each individual component.

With respect to claims 15, 17, 19-20 and 34, when said carrier is ethyl-eicosapentaenoic acid (EPA) or docosahexaenoic acid, the scope of the claimed composition in claims 15, 17, 19-20 and 34 overlaps to the scope of claims 14 and 33 composition. Therefore, the reference in combination makes obvious the claimed composition.

With respect to the specific dosage of 13-HODE (claim 16) and the specific dosage forms (claim 21), those of ordinary skill in the art would have readily optimized effective dosages amounts or dosage forms as determined by good medical practice and the clinical condition of the individual patient. Determination of appropriate dosage amounts of each ingredients in said composition or dosage forms involving each of the above mentioned formulations would have been apparent to those of ordinary skill in the art, and routinely made by those of ordinary skill in the art and be within the ability of tasks routinely performed by them without undue experimentation.

With respect to the instantly recited "for use in reducing the inhibition of endogeneous 13-HODe synthesis in a subject", such statement is non-limiting to the interpretation of the composition claim. Claims to a composition possessing a particular property or characteristic are still properly rejection by a reference to the same composition, even if the reference does not address or acknowledge the property since the such property or characteristic is deemed to be expected feature to the composition.

Although the instant claims use the different names for the said ingredients than those taught in the cited references, these references are particularly pertinent and relevant because all the claimed species and their roles are well taught in the cited reference. Thus, one would have been motivated to combine these references and make the modification because they are drawn to same technical fields (constituted with same ingredients and share common utilities), and pertinent to the problem which applicant concerns about. MPEP 2141.01(a).

8. Claim 18 is rejected under 35 U.S.C. 103(a) as being unpatentable over Streber (US 5102912) in view of Carlsson et al. (WO 99/44585).

The teaching of Streber has been discussed in above 35 USC 102(b) rejection.

Carlsson is being supplied as a reference to demonstrate the use of evening primrose oil, soybean oil, borage and sunflower oil as suitable carrier for the 13-HODE (page 4, line 35 thru page 5, line 3).

The teaching of Streber differs from the claimed in the use of other mono, di, or triglyceride such as corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body and fish liver oils. To incorporate such teaching into the teaching of Streber, would have been obvious in view of Carlsson who teaches the routine known in utilizing evening primrose oil, borage and sunflower oil as functional equivalent as soya (soybean) oil in preparing 13-HODE composition.

The above references in combination make clear that use of triglycerides such as corn, sunflower, evening primrose, borage and soybean oil as secondary agent in preparing 13-HODE formulation is well known in the art. The above references in combination also make clear that

the formulation of 13-HODE into topical form, tablet, capsule, dragees or solutions is old and well known in the art. Thus, it would have been obvious to make the claimed composition comprising 13-HODE and carrier (i.e., corn, sunflower, evening primrose and borage) since the examiner takes the art-recognized equivalent of corn, sunflower, evening primrose, borage and soybean oil as triglycerides for their use in preparing 13-HODE formulation and the selection of any of these known triglycerides to prepare 13-HODE formulation would be within the level of ordinary skill in the art.

Response to Arguments

9. Applicant's arguments filed December 29, 2005 have been fully considered but they are not persuasive.

Applicant's argument takes the position that the Examiner acknowledges that the claim 15 is not directed to the (A)/(B)/(C) combination. Applicant alleges that since the Examiner recognizes that "the specification provides sufficient written description for the composition comprising (A) 13-HODe... and (C) carrier...", the rejection of the claim 15 based on inadequate written description is incorrect.

This argument is not found persuasive. Unlike the applicant's argument (Applicant's misinterpretation of the Examiner's statement), the instant claim 15 which is drawn to "an oral pharmaceutical composition comprising 13-hydroxyoctadeca-9Z, 11E-dienoic acid (13-HODE) in its free form and at least one pharmaceutically acceptable carrier" allows for the inclusion of any other unspecified component even in major amounts in said composition. According to the

instantly claimed invention, the claimed composition may contain more than one of carriers in said composition, for example any combination of carriers selected from selected from the group consisting of a mono-, di- or triglyceride oil; corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body, fish liver oils; an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds (e.g., ethyl-eicosapentaenoic acid, oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic, dihomogammalinolenic, arachidonic and docosapentaenoic).

In other words, the claimed composition could contain (A) 13-HODE, (B) eicosapentaenoic acid (ethyl-EPA) and (C) the other carriers. As discussed above in the 35 USC 112, first paragraph, rejection, the specification clearly does not provide an adequate representation regarding the composition comprising (A) 13-HODE, (B) ethyl-EPA and (C) carrier selected from the group consisting of a mono-, di- or triglyceride oil; corn, sunflower, safflower, cottonseed, grape seed, olive, evening primrose, borage, fish body, fish liver oils; and an ester of a fatty acid containing 16-26 carbon atoms and one or more double bonds (e.g., oleic, linoleic, alpha-linoleic, stearidonic, gamma-linolenic, dihomogammalinolenic, arachidonic and docosapentaenoic, made by the presently claimed invention. Therefore, the Examiner maintains the rejection of the claim 15 under the 35 USC 112, 1st paragraph.

Applicant's argument in the response takes the position that Streber fails to disclose, explicitly or inherently, all the limitations of claims 15-17, particularly "for use in reducing the inhibition of endogenous 13-HODE synthesis in a subject".

This argument is not found persuasive. As discussed above, the statement of intended use of purpose is not limiting to the interpretation of the composition claim. Since claims to a composition possessing a particular property or characteristic are still properly rejected by a reference to the same composition, even if the reference does not address or acknowledge the property. The property or characteristic is deemed to be inherent to the composition, i.e., it was always there.

Applicants argument in the response takes the position that a person skilled in the art would realized that all prior art antithrombotic treatments, including those taught by Vanderhoek and Breivik, impact significantly on coagulation and/or platelet function and render platelets hemostatically dysfunctional; i.e., place the patient at risk of bleeding.

This argument is not found persuasive. Firstably, there is no indication in the instant claims that the claimed composition is able to "return the vessel wall to homeostatic conditions without rendering the patient hemostatically dysfunctional". In other words, the interpretation of the instant claims do not require of the alleged advantage of "without rendering the patent hemostatically dysfunctional". Therefore, the referenced teachings in combination make obvious the claimed invention. Finally, the state of art acknowledges the numerous possible combinations of antplatelet agents, antithrombic agents, anti-coagulant agents and fibrinolytic agents for the potential treatment of thrombosis (see for example US 6462021; US5945432; US 6245782, etc...). Unlike Applicant's argument, one having ordinary skill in the art would have expected that combination of ingredients each of which is taught by prior art to be useful for inhibiting platelet aggregation would provide enhanced pharmacological activity by their additive effect of each individual component. Furthermore, one having ordinary skill in the art would have been

motivated to combine the above references and make the modification to decrease the possible adverse effects by decreasing the amounts of each ingredients normally administered for the treatment of thrombosis. In absence evidence to the unexpected results or superior results of the claimed composition over the prior art, the Examiner maintains that the instant invention is obvious over the Vanderhoek (US 60777525) in view of Breivik et al. (US 5502077).

Conclusion

10. Claims 10 and 13 are allowed.

11. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Brian Kwon whose telephone number is (571) 272-0581. The examiner can normally be reached Tuesday through Friday from 9:00 am to 7:00pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Christopher Low, can be reached on (571) 272-0951. The fax number for this Group is (703) 872-9306.

Any inquiry of a general nature of relating to the status of this application or proceeding should be directed to the Group receptionist whose telephone number is (571) 272-1600.

Brian Kwon
Patent Examiner
AU 1614